



## Result Page

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Use of Phenylpyrimidinen as plant modulators the present invention concerns a method for the adjustment of the plant growth by means of Phenylpyrimidinen as well as the use of these materials to the control of physiological events in the Pflanzenmetabolismus.

The Phenylpyrimidine corresponds to the formula < RTI ID=1.1> 1< /RTI>

EMI1.1

where n a number from 1 to 5, R hydrogen, halogen, Nitro, cyanogen, - XR5, - NR6R7, - CO-A, - CS-NR6R7, - SO2-NR6R7, C (OR4) 2-R4,

EMI1.2

- < SO3H; RTI ID=1.2> - < NCR8R9; /RTI> a unsubstituerte or through < RTI ID=1.3> Halogen< /RTI> < RTI ID=1.4> R5, < /RTI> - NR6R7. - C1-C6-Alkyl PO (OR4) 2, - CO-A or cyanogen substituted or < RTI ID=1.5> C3-C-Cycloalkylgruppe< /RTI> or a unsubstituerte or by halogen or - XR4 C2-C6-Alkenyl substituerte, < RTI ID=1.6> C3-C6-Cycloalkyl-< /RTI> or C3-C6-Alkinylgruppe, g 1 and R3 independently for each hydrogen, halogen, C1-C4-Alkyl.

Cyanogen, - CO-A, - NR6R7, - XR5 or unsubstituerte or by halogen, < RTI ID=1.7> Cl-C4-Alkyl, < /RTI> Nitro or - XR5 substituted Phenyl, R2 hydrogen, halogen, unsubstituerte or by halogen, C1-C4

Alkyl, tri fluorine methyl, Nitro or - XR5 substituted Phenyl or a unsubstituerte or by halogen or - XR5 substituted < RTI ID=2.1> C1-C6-Alkyl, < /RTI> C3-C6-Cycloalkyl, C2-C6-Alkenyl or C2-C6-Alkinyl group, R4 hydrogen, a unsubstituerte or by halogen, < RTI ID=2.2> - < CO-A; /RTI>

Hydroxy, < RTI ID=2.3> C1-C6-Alkoxy< /RTI> or - NR6R7 substituted < RTI ID=2.4> Cl-C6-Alkyl-< /RTI> or C3-C6-Alkenyl or C2-C6-Alkinylgruppe, R5 the same like R4, in addition C1-C6-Alkylcarbonyl, C3-C6-Alkenyl carbonyl, C3-C6-Alkinylcarbonyl, < RTI ID=2.5> R6 and R independently for each hydrogen, C2-C6-Alkenyl,

7< /RTI>

C2-C6-Alkinyl or unsubstituerte or through - CO-A substitute width units < RTI ID=2.6> C 1-C6< /RTI> Alkyl, or one of the remainders of R6 and < RTI ID=2.7> R7< /RTI> means one

Group - COA or - of OR4 or < RTI ID=2.8> Rund< /RTI> together 4 - to 6-gliedrige an alkyl chain, through Oxygen, sulphur, a Imino or < RTI ID=2.9> Cl-C4-Alkylaminogruppe< /RTI> interrupted to be, B can do a branched or a normal < RTI ID=2.10> C1-C6-Alkylenkette< /RTI> and X oxygen, sulphur, < RTI ID=2.11> - Then-< /RTI> or < RTI ID=2.12> - 5 2-< /RTI> mean, A the same meaning as R4 < or for - OR4 or; RTI ID=2.13> NR6R7< /RTI>, R8 of unsubstituerte or through < stands; RTI ID=2.14> C1-C6-Alkoxy< /RTI> substituted alkyl, R9 hydrogen or the same like R8 or R8 and < RTI ID=2.15> R9< /RTI> < RTI ID=2.16> zusammen< /RTI> a 4-5-gliedrige alkyl chain mean.

Such Phenylpyrimidine and its use for the antagonization of the phytotoxic effect of herbicides on cultivated plants were described in the EP-A-55 693.

It was found surprising now that the active substances of the formula I and/or. Compositions, which contain these active substances, above all by the fact are characterised that it < purposeful in; RTI ID=2.17> Metabolismus< /RTI> the

▲ top plants intervene. This purposeful interference into the physiological events of the plant development makes the active substances of the formula I for different tack usable, in particular for such, those with the increased returns with useful plants, which harvest easement and the operational saving < with; RTI ID=3.1> tZssnahmen< /RTI> at plant cultures in the connection stand.

To the impact of plant growth regulators it applies after the past experience that an active substance or also several different < RTI ID=3.2> Wirkungen< /RTI> on plants to exercise can. The effects of the materials hang essentially off of the time of the Anwendung, < RTI ID=3.3> zogen< /RTI> on development stage of the seed or the plant as well as of the active substance quantities discharged on the plants or their environment and of the kind of the application. In each case are < RTI ID=3.4> 'achs < /RTI> tumsregulatoren the cultivated plants in desired way positively affect.

< RTI ID=3.5> Pflanzeniuchsrcgulierende< /RTI> Materials can for the example for inhibition < RTI ID=3.6> vgegetativen< /RTI> Plant growth to be used. A such < RTI ID=3.7> Wuchshern. .ung< /RTI> is among other things with grasses of economical

Interest, because thus can e.g. the frequency of the grass cuts in ornamental gardens, park and sports sites or at edges of road to be reduced. < RTI ID=3.8> on< /RTI> Meaning is also < RTI ID=3.9> Heizung< /RTI> < RTI ID=3.10> Wuchses< /RTI> of krautigen and getting goats plants at edges of road and in close proximity to overhead power lines or completely general within ranges, within which a strong fouling is unwanted.

< RTI ID=3.11> Wichtig< /RTI> also the use from growth regulators is to the inhibition of length growth with grain, because < by one; RTI ID=3.12> Halmverkürzung< /RTI> the danger is < RTI ID=3.13> Umknickens< /RTI> < RTI ID=3.14> (?Storing?) < /RTI> the plants before the harvesting reduced or perfectly eliminates. In addition can < RTI ID=3.15> Uachstums < /RTI> modulators with grain a stem reinforcement cause, which evenly if supports works against that.

An inhibition of vegetative growth permitted with many culture plant a closer cultivation < RTI ID=3.16> Rultur, < /RTI> so that < RTI ID=3.17> T1ehrer-< /RTI> carry, related to the floor space, to be obtained can.

A further < RTI ID=4.1> Nechanismus< /RTI> the increased returns with < RTI ID=4.2> hachstumshe=mern< /RTI> been based on the fact that the nutrients benefit in stronger mass of the bloom and fruit formation, while vegetative growth is limited.

< RTI ID=4.3> Mit< /RTI> Frequently also a promoting of vegetative growth can growth regulators be obtained. This is very useful, if the vegetative plant parts are harvested. In addition, a promoting of vegetative growth can lead simultaneous to a conveying of generativen growth, so that e.g. more or larger fruits to the construction < RTI ID=4.4> ko=nen.< /RTI>

Increased returns can into some felling also by an interference into the vegetable metabolism, as < RTI ID=4.5> e.g. < /RTI> by increase < RTI ID=4.6> Photosyntheseleistung< /RTI> are reached, without changes of vegetative growth become apparent. Furthermore growth regulators can cause a change of the composition of the plants, so that a better quality of the harvest products is caused. Like that it is for example possible, the content of sugar in sugar beets, Zuckerrohr, to increase pineapple as well as for Zitrusfrüchten or to increase the protein content in Soja or grain.

Under the influence of < RTI ID=4.7> Wachstumsregulatoren< /RTI> it can to the construction of parthenokarper fruits < RTI ID=4.8> kommen.< /RTI> Furthermore the sex of the blooms can be affected.

With < RTI ID=4.9> Wachstumsregulatoren< /RTI> also the production or the effluent can be positively affected by secondary plant materials. As example the stimulation of the Latexflusses is with < RTI ID=4.10> Gummibäumen< /RTI> called.

During the growth of the plant can by inset of < RTI ID=5.1> growth < /RTI> modulators also the lateral bypass by a chenische refraction of apical dominance to be increased. To it e.g. exists. Interest with the Stecklingsvermehrung of plants. It is however also possible, that < RTI ID=5.2> Wachstum< /RTI> the side impulses to restrain, < RTI ID=5.3> e.g. < /RTI> over with < RTI ID=5.4> Tabakpflanzen< /RTI> after the Dekapitierung the construction from side impulses to to prevent and thus < RTI ID=5.5> Blattwachstum< /RTI> to promote.

By inset of < RTI ID=5.6> Wachstumsregulatoren< /RTI> the premature case of fruit can be prevented. It is however also possible, the case of fruit, - for example with fruit < RTI ID=5.7> - < /RTI> in the sense of a chemical thinning out up to one < RTI ID=5.8> bestir~ten< /RTI> To promote extent. Waschtumregegulatoren can also serve in order to décréase with cultivated plants at the time the harvesting the force necessary for the replacement of the fruits, so that a mechanical Beernung of the plants makes possible, and/or a manual Beernung is facilitated.

< RTI ID=5.9> Nit< /RTI> < RTI ID=5.10> Wachstumsregulatoren< /RTI> furthermore an acceleration or also a delay can be reached the ripe one of the crop before or after the harvesting. This is of advantage special, because thereby an optimal adjustment can be caused to the needs of the market. Further growth regulators can improve the fruit from colouring into some felling. In addition also a temporal concentrating the ripe one can be obtained by growth regulators. Thus conditions for the fact are created that e.g. with tobacco, tomatoes or coffee, a complete mechanical or manual Beernung in only one processing step to be made can.

By the use of < RTI ID=5.11> Wachstumsregulatoren< /RTI> also the Samenoder bud peace can < RTI ID=5.12> Plants, also< /RTI> the endogenous Jahresrhythmis, to be affected, so that the plants, like e.g. Pineapple or Zier plants in market gardens, at one time germinates, drives out or flowers, on which they show normally for this no readiness.

Rivet growth regulators can be achieved also that drove out from buds or the gluing of seed sustained becomes, e.g. in order to avoid in frost-endangered fields a damage by late frosts. On the other hand, that succeeds < RTI ID=6.1> Wurzelwachstum< /RTI> to stimulate too and/or the construction from Sprösslingen to, so that growth can be limited to a shorter length of time.

Furthermore can cause and to the increased returns in such a way lead a larger, better trained and deeper root work an improved stress overcoming (with cold weather and dryness), better utilization of the soil nutrients, and an amplified competition strength opposite the weeds.

With growth regulators also the seed germinating under suboptimalen conditions can (e.g. Cold weather) to be promoted. This makes an earlier sowing for the culture possible, a better establishment under suboptimalen conditions and can to the increased returns contribute in such a way.

Growth regulators can produce also a Halophilie with the cultivated plants. Thus the conditions for the fact are created that a cultivation of plants on salzhaltigen trays can be accomplished.

< RTI ID=6.2> Mit< /RTI> < RTI ID=6.3> Wachstumsregulatoren< /RTI> can also a frost and < RTI ID=6.4> Trockenresistenz< /RTI> with plants to be induced.

Under the influence of growth regulators aging (the Seneszenz) plants or plant parts can < RTI ID=6.5> gehemmt< /RTI> respectively delayed becomes. Such an effect can of high economical Interest its, thus that with treated plant parts or whole plants such as fruit, berries, vegetables, salad or ornamental plants their shelf-life can become after the harvesting improved or elongated. Likewise considerable increased returns can be obtained by treatment by cultivated plants over an extension of the phase photo-synthetic activity.

A further important area of application for < RTI ID=7.1> Wuchshemmer< /RTI> their inset is < for the inhibition of an excessive growth with tropical; RTI ID=7.2> Bodenbeckungspflanzen, < /RTI> the so-called Cover crops. In tropical and subtropical < RTI ID=7.3> Ejonokulturen, < /RTI> like e.g. in < RTI ID=7.4> Palmlplantagen, < /RTI> < RTI ID=7.5> Tree-full, < /RTI> Naisfeldern etc. beside the actual cultivated plants ground cover plants, in particular Leguminosenarten, are often cultivated which for the preservation or increase of the soil quality (prevention of the drainage, supply of nitrogen) and for the prevention of erosion (demolition by wind and water) to serve. By application which it < RTI ID=7.6> findungsgemässen< /RTI> Active substances can now the growth of these Cover crops be

controlled and thus the stature height of these ground cover plants on a low level be held, so that healthy prospering of the cultivated plants and the maintenance of a favorable ground condition are ensured.

The pflanzenregulatorische effect is schwerpunksmässig with  $\langle RTI ID=7.7 \rangle$  Stiinrnulierung  $\langle /RTI \rangle$  root growth and the germ promotion.

An improved root work can contribute to the overcoming of stress conditions, like drynesses. Furthermore thereby a better nutrient admission can be expected. In this sense it is to be emphasized that an influence of the root value in the positive sense can contribute to the yield safety device and increased returns.

The germ promotion by means of these materials on stress conditions such as wetness, cold weather etc., can be of importance for a regular Accumulate the seed independently of stress factors, can earlier out sow to make possible and thus a developing to possibly ensure (extension of the vegetation time), furthermore can thereby in climatological edge zones possibly the culture surface be expanded. In this sense also the germ promotion is to be regarded by means of chemicals as a composition to the yield safety device on the one hand and on the other hand to the increased returns.

For the influence of the Pflanzenmetabolismus those Phenylpyrimidinen of the formula I attained special meaning, where n a number from 1 to 3, R hydrogen, halogen, Nitro,  $\langle$  cyanogen; RTI ID=8.1  $\rangle$  C1-C4-Alkyl,  $\langle /RTI \rangle$  C1-C4-Halogenalkyl, C1-C4-Cykoalkyl, hydroxyl, (C1-C4-Alkoxy) n, C1-C4-Halogenalkoxy, C2-C8-Halogenalkoxyalkyl, C2-C4-Alkenyl,  $\langle RTI ID=8.2 \rangle$  C2-C4-13alogenalkenyl,  $\langle /RTI \rangle$  C2-C4  $\langle RTI ID=8.3 \rangle$  Alkenyloxy,  $\langle /RTI \rangle$  C2-C4-Alkinyl, Sulphydryl, C1-C4-Alkylthio, carboxyl, C1-C4-Alkylcarbonyl, C1-C4-Alkoxy carbonyl, C2-C4-Alkenylcarbonyl, C2-C4-Alkinylcarbonyl, C1-C4-Alkylcarbonyl-C1-C4-alkyl, C1-C4-Alkyl-c carbonyloxy, C1-C4-Alkylaminocarbonyl, C1-C4-Dialkylaminocarbonyl, Amino, C1-C4-Alkylamino, C1-C4-Dialkylamino, Acetyl amino, Chloracetyl amino,  $\langle RTI ID=8.4 \rangle$  Methylureido,  $\langle /RTI \rangle$   $\langle RTI ID=8.5 \rangle$  Dimethylureido,  $\langle /RTI \rangle$  Sulphonyl,  $\langle RTI ID=8.6 \rangle$  C1-C4-Alkylsulfonyl,  $\langle /RTI \rangle$  Sulfamoyl, C1-C4-Alkylsulfamoyl,  $\langle RTI ID=8.7 \rangle$  C1-C4-Dialkylsulfamoyl,  $\langle /RTI \rangle$   $\langle RTI ID=8.8 \rangle$  Cl-C4-Alkoxy- $\langle /RTI \rangle$  carbonylsulfamoyl, C1-C4-Dialkoxyphosphorylmethyl g 1 and R3 independently for each hydrogen, halogen,  $\langle RTI ID=8.9 \rangle$  C1-C6-Alkyl,  $\langle /RTI \rangle$  Cyanogen,  $\langle RTI ID=8.10 \rangle$  Bydroxy,  $\langle /RTI \rangle$   $\langle RTI ID=8.11 \rangle$  Cl-C6-Alkoxy,  $\langle /RTI \rangle$  C2-C8-Alkoxyalkyl, Phenyl, Phenoxy,  $\langle RTI ID=8.12 \rangle$  C1-C4-Alkoxy carbonyloxy,  $\langle /RTI \rangle$  Amino, C1-C4-Alkylamino,  $\langle RTI ID=8.13 \rangle$  C1-C4-Dialkylamino,  $\langle /RTI \rangle$  Morpholino, Sulphydryl and R3 hydrogen, halogen,  $\langle RTI ID=8.14 \rangle$  Cl-C6-Alkyl,  $\langle /RTI \rangle$  C1-C6-HAlogenalkyl or Phenyl mean.

As particularly suitable stature modulators the 2-Phenylpyrimidine of the formula proved Ia, where  
EMI9.1

where R hydrogen or methyl g 1 hydrogen,  $\langle$  halogen; RTI ID=9.1  $\rangle$  Cl-C6-Alkyl,  $\langle /RTI \rangle$  Hydroxy,  $\langle RTI ID=9.2 \rangle$  C1-C6-Alkoxy,  $\langle /RTI \rangle$  C2-C8 Alkoxyalkyl, Phenyl, Phenoxy,  $\langle RTI ID=9.3 \rangle$  C1-C4-Alkoxy carbonyloxy,  $\langle /RTI \rangle$  Amine,  $\langle RTI ID=9.4 \rangle$  C1-C4-Alkylamino,  $\langle /RTI \rangle$   $\langle RTI ID=9.5 \rangle$  C1-C4-Dialkylamino,  $\langle /RTI \rangle$   $\langle RTI ID=9.6 \rangle$  Morpholin  $\langle /RTI \rangle$  or Sulphydryl,  $\langle RTI ID=9.7 \rangle$  Hydrogen,  $\langle /RTI \rangle$  Halogen,  $\langle RTI ID=9.8 \rangle$  Cl-C6-Alkyl  $\langle /RTI \rangle$  or Phenyl, R3 halogen, Hydroxy,  $\langle RTI ID=9.9 \rangle$  C1-C6-Alkoxy,  $\langle /RTI \rangle$  C2-C8-Alkoxyalkyl, Phenoxy or Sulphydryl mean.

Likewise excellent plant stature modulators are the 2 Phenylpyrimidine of the formula Ib

EMI9.2

where n, R, g 1 and R3 have the meaning given above.

As single connections were noticeable: 2-Phenyl-4,6-dichlorpyrimidin.

2 (4-Methoxycarbonylamidophenyl) - 4,6-dichlorpyrimidin.

The Phenylpyrimidine of the formula I can be manufactured by well-known synthesis ways. The 2-Phenylpyrimidinring e.g. becomes. by condensation of a Phenylamidins with a malonic acid derivative manufactured.

Such 2-Phenylpyrimidine is received for example by the fact that one in alcoholic-basic solution a Phenylamidin with a malonic acid dialkyl ester condensed

EMI10.1

and then gewünschtenfalls at the received  $\langle RTI ID=10.1 \rangle$  2-Phenyl-4, 6-dihydroxy-pyri- $\langle /RTI \rangle$  midin the formula IV the hydroxyl groups by means of Halogenierungsmitteln (Phosphoroxychlorid,  $\langle RTI ID=10.2 \rangle$  Phosphoroxybromid,  $\langle /RTI \rangle$  Sulphuryl chloride, Bromsuccinimid etc.) by halogen atoms and also these gewünschtenfalls by further remainders of g 1 and R3 replaces.

If  $\langle RTI ID=10.3 \rangle$  h  $\langle /RTI \rangle$  Hydrogen meant, can be replaced this e.g. by effect letting of chlorine or bromine in a polar solvent like e.g. Glacial acetic acid.

The halogen atoms in the positions 4, 5. and 6 of the Pyrimidinringes again leave themselves for their part  $\langle$  in well-known way by alcohols; RTI ID=10.4  $\rangle$  Merkaptane  $\langle /RTI \rangle$  or amines replace.

See in addition. e.g. J. Chem. one. Soc. 1965, S. 5467-5473, J.prakt. Chem. one. 312 (1970), S. 494-506.

J.chem. Soc. Perkin of Trans 1 1977, S. 2285-6.

Phenylpyrimidine, in which g 1 is to mean an alkyl or a Phenylrest, are received for example by condensation of a Phenylamidins with an alkyl ester of an acetoacetic acid.

EMI11.1

$\langle SEP \rangle$  R

$\langle tb \rangle$   $\langle SEP \rangle$  G 1  $\langle SEP \rangle$  ii

$\langle tb \rangle$  (R)  $\langle SEP \rangle$  \  $\langle SEP \rangle$  /  $\langle SEP \rangle$  2  $\langle SEP \rangle$  co'CH'R2  $\langle SEP \rangle$  ^

$\langle tb \rangle$  (R)  $\langle SEP \rangle$  n  $\langle SEP \rangle$  2  $\langle SEP \rangle$  CO  $\langle SEP \rangle$  (R)

$\langle tb \rangle$   $\langle SEP \rangle$  Alkyl  $\langle SEP \rangle$  n  $\langle SEP \rangle$  OH

$\langle tb \rangle$  Also here can - OH group then in well-known way by a halogen atom and this further by an alcohol, thiol or an amine to be replaced.

Furthermore e.g. succeeds. also 2-Phenyl-4,6-dichlorpyrimidin and 2-Phenyl-4-chlor-6-hydroxypyrimidine to

manufacture by conversion of Chlorbenzyliden carbamoyl chloride with an aliphatic nitrile in presence of hydrogen chloride

EMI11.2

See in addition bulletin. Soc. Chem. one. Japan 44 (1971), S. 2182-2185.

2-Phenyl-4,6-dichlorpyrimidin leaves itself for example in accordance with Ang.

Chemistry 89 (1977), S. 816-817 for example by condensation of a N-Phenylcyanamid and a N, N-Dialkylamid in < RTI ID=11.1> POCl3< /RTI> with < RTI ID=11.2> 100 " < /RTI> received.

EMI11.3

< tb>

CN < SEP> (CH < SEP> ) 2r < SEP> (CH3)  
< tb> POS1, < SEP> t < SEP> (R)  
< tb> < SEP> 0 ' < SEP> Cl  
< tb> < SEP> CN < SEP> (CH3) < SEP> NE3 < < SEP> C.  
< tb>

< SEP> /< SEP> \ \ < SEP> - < R-7; SEP> \ V< SEP> \\  
< tb> < SEP> jNH < SEP> Alkyl < SEP> Ci < SEP> \. =. \ < SEP> 2  
< tb> < SEP> (R)  
< tb> < SEP> Cl < SEP> n < SEP> Cl < SEP> n

< tb> In the above formulas have R, R2 and n the meaning given in formula I.

The synthesis of such bonds or the replacement of remainders of g 1, R2 and R3 by other substituents given in the definition is not a component of the invention. For the making of these connections we refer to the examples or to the technical literature.

See in addition also < RTI ID=12.1> ?The< /RTI> Chemistry OF Heterocyclic compounds " 16 Interscience Publishers, New York 1962 pages 119 FF.

The connections of the formula I can be used for itself alone or together with other active substances:

Bonds of the formula I are inserted in unchanged form or preferably together with the aids usual in the formulation technology and e.g. become therefore. to emulsion concentrates, directly sprayable or dilutable solutions, diluted emulsions, wettable powders, soluble powders, types of dust means, granules, also encapsulations in e.g. polymere materials in well-known way processes. The operating techniques such as spraying, an atomising, types of dust, a scattering or a pouring are selected accordingly equal as the kind of the compositions the objectives and given conditions.

The formulations, i.e. those < RTI ID=12.2> Wirkstoff< /RTI> the formula I and a solid or liquid additive containing agents, preparing or compositions in well-known way are manufactured if necessary, e.g. by intimate mixing and/or meals of the active substances with diluents, like e.g. with solvents, solid carrier materials, and if necessary surface-active connections (Tensiden).

As solvents can be applicable: Aromatic hydrocarbons, prefers the parliamentary groups C8 to C12, like e.g. Xylene mixtures or substituted naphthalenes, Phthalsäureester such as Dibutyl or Diocetylphthalat, aliphatic hydrocarbons such as cyclohexane or paraffins, alcohols and glycols as well as their ether and ester, how Ethanol, ethylen glycol, ethylen glycol mono methyl or ethyl ether, vinyl ketones such as cyclohexanone, strongly polar solvents such as N-Methyl-2pyrrolidin, Dimethylsulfoxid or dimethyl formamide, as well as vegetable oils woe epoxydiertes coconut oil or Soja oil epoxydierte if necessary; or water.

As solid carrier materials, e.g. for types of dust means and dispersable powders, usually natural powdered minerals are used, like Calcit, talcum powder, kaolin, Montmorillonit or Attapulgit. For the improvement of the physical properties also hochdisperse silicic acid or hochdisperse absorbent polymers can be added. As roughened, adsorbates granulates carriers come porous types, like e.g.

Pumice stone, brick break, Sepiolit or Bentonit, as not sorptive carrier materials e.g. Calcit or sand in question. In addition a multiplicity of before-granular materials of inorganic or organic nature can like in particular dolomite or cut up < RTI ID=13.1> Pflanzen< /RTI> arrears to be used.

As surface-active connections nichtionogene, cation and/or anion-active Tenside with good emulsifying, come dispersion and net characteristics into consideration depending upon the kind of the active substance of the formula I which can be formulated. By Tensiden also Tensidgemi is to be understood.

Suitable ones anionic Tenside can do both so-called. water-soluble soaps like water-soluble synthetic surface-active connections its.

As soaps are suitable the alkali, alkaline-earth or if necessary substituted ammonium salts of higher fatty acids < RTI ID=13.2> (C10-C22) > < /RTI> like e.g. well or < RTI ID=13.3> Salze< /RTI> the oil or stearic acid, or of natural fatty acid mixtures, e.g. from coconut or tallow oil to be won can. Ferner sind auch die Fettsäure-methyl-taurinsalze zu erwähnen.

However so-called become more frequent synthetic Tenside used, in particular Fettsulfonate, fat-sulfates, sulsonierte Benzimidazolderivate or Alkylarylsulfonate.

The Fettsulfonate or - sulfates lie usually as alkali, alkaline-earth or if necessary substituted ammonium salts four and exhibit an alkyl residue with 8 to 22 C-atoms, whereby alkyl includes also the alkyl part of acyl radicals, e.g. the well or approx.-salt of the lignin-sulfone-acidic, the Dodecylschwefelsäureesters or out natural fatty acids a manufactured fat alcohol sulfate mixture. Here also the salts of the sulfuric acid esters and sulphonic acids of Fettalkohol Aethylenoxid adducts belong. The sulfonierten Benzimidazolderivate contains preferably 2 groups of sulfone acidic and a fatty acid

remainder with 8-22 C-atoms. Alkylarylsulfonate e.g. are the well, approx. or tri ethanol amine salts of the Dodecylbenzolsulfonsäure, which < RTI ID=14.1> N aphthalins ul hair dryer.äure form< /RTI> aldehyde condensation product.

Furthermore also appropriate phosphates come, like e.g. Salts of the phosphoric acid ester one < RTI ID=14.2> P- Nonylphenol (4-14) - ethylene oxide Adduktes< /RTI> in question.

As nichtionische Tenside mainly Polyglykolätherderivate of aliphatic or cyclo-aliphatic alcohols, satisified or insatiated fatty acids and Alkylphenolen are applicable, which 3 to 30 groups of glycol ethers and 8 to 20 carbon atoms in (aliphatic) the hydrocarbon remainder and 6 to 18 carbon atoms in the alkyl residue that alkyl phenol can contain.

Further suitable nichtionische Tenside is the water-soluble, 20 to 250 groups of ethylen glycol ethers and 10 to 100 propylene glycol groups of ethers containing PL oxide adducts at polypropylene glycol, Aethylendiaminopolypropylenglykol and alkyl polypropylene glycol with 1 to 10 carbon atoms in the alkyl chain. The connections mentioned contain usually pri propylene glycol unit 1 to 5 ethylen glycol units.

When examples of nichtionischer Tenside are Nonylphenolpolyäthoxy of ethanol, Ricinussölpolyglykoläther, polypropylene Polyäthyleneoxyaddukte, Tributylphenoxypolyäthoxyäthanol, PL glycol and Octylphenoxypolyäthoxyäthanol mentions.

Furthermore also fatty acid esters of Polyoxyäthylensorbitan are possible as Polyoxyäthylensorbitan trioleat.

With the cationic Tensiden it concerns particularly quart acres of ammonium salts, which as N-substituents at least one alkyl residue with 8 to 22 C-atoms contained and as further substituents low, if necessary halogenated exhibit alkyl, benzyle or low hydroxalkyl remainders. The salts are present preferably as halides, methyl sulfates or ethyl sulfates, e.g. the Stearyltrimethyl ammonium chloride or < RTI ID=15.1> Benzylidi (2-chloräthyl) äthylammonium < /RTI> bromide.

The Tenside common in the formulation technology is among other things in the following publications described: ?Mc Cutcheon's Detergents and Emulsifiers Annual? MC Publishing Corp., Ringwood, new jersey, 1979.

Sisely and Wood, ?Encyclopedia OF Surface Active Agents?, Chemical Publishing of cost, Inc. New one. York, 1964.

Pestiziden the preparing 0.1 to < contained usually; RTI ID=15.2> 99%, < /RTI> in particular 0.1 to 95X, active substance of the formula I, 1 to 99% of a solid or liquid additive and 0 to 25%, in particular 0.1 to 25%, a Tensides.

While as commodity agents rather concentrated are preferred, the final consumer uses usually diluted agents.

The compositions know also further additives such as stabilisers, defoamer, viscosity modulators, adhesive, bonding agent, as well as fertilizers or other active substances for the achievement of particular effects contain.

In the following examples the temperatures are indicated in centigrades, per cent and data of ?parts? refer to the weight.

Example 1: < RTI ID=16.1> 2-para-Tolyl-4,6-bis-isopropoxy-pyrimidin< /RTI>  
EM16.1

(A) One solves 21.16 g sodium in anhydrous isopropanol. Into the developed solution one registers 95.64 g 4,6-Dichlor-2-para-tolyl-pyrimidin thereafter with 60-650C within 15 minutes. The mixture is further-cooked for still 4 hours afterwards for simmering heated and for the completion of the reaction at the return flow. Then the surplus isopropanol is abdestilliert and the oil staying to chloroform is taken up. The chloroform layer is dried washed with water, over sodium sulphate, abdestilliert filtered and the solvent. One receives so 112 g 2-para-Tolyl-4,6bis-isopropoxy-pyrimidin as yellowish oil, which one distills for purification at the high vacuum. The boiling point amounts to < RTI ID=16.2> 123 " G/5.332< /RTI> Pascal.

As output product needed < RTI ID=16.3> 2-para-Tolyl-4,6-dichlor-pyrimidin< /RTI> in the following way one manufactures: b) 102.3 g < RTI ID=17.1> P-Tolylamidinhydrochlorid< /RTI> and 99.3 g < RTI ID=17.2> Nalonsäurediäthyl < /RTI> esters are angeschlämmt in 520 ml anhydrous ethanol. Under good agitating and cooling one lets 323.7 g of a 30%igen Natriummethylatlösung flow now. Afterwards to the return flow heated and 4 to 5 hours at the return flow are agitated. After Abdestillation of the solvent the residue is taken up to 1000 ml water, filtered on 800C heated and the something gloomy solution over silicic acid. After the cooling with one < RTI ID=17.3> 15%iger< /RTI> Hydrochloric acid acidified. The thick crystal mash is filtered off, washed with water and < with; RTI ID=17.4> 100 " C< /RTI> dried. One receives 100-110 g 2-para-Tolyl-4,6-Dihydroxypyrimidin, melting point 3140C (decomposition).

(C) 72.6 g < RTI ID=17.5> Dihydroxy Verbindung< /RTI> with 72,6 g N, N-Dimethylanilin and 363 g Phosphoroxychlorid are agitated for simmering heated and one hour at the return flow. According to Abdestillation of the surplus Phosphoroxychlorids the product staying, to the distance of the still adhering Phosphoroxychlorids, is treated with ice water, according to it with ice water finely husbands, filtered off, washed < with ice water and with; RTI ID=17.6> 40-50 " C< /RTI> in the vacuum dried. One receives so 85.9 g 2-para-Tolyl-4,6-dichloro-pyrimidin from the melting point 86-870C.

Example 2: < RTI ID=17.7> 2-para-Tolyl-4, 6-bis-isopropoxy-5-brom-pyrimidin< /RTI>  
EM17.1

One heated 111.7 g < RTI ID=17.8> 4,6-Di-isopropoxy-2-para-tolyl-pyrimidin< /RTI> and 450 ml carbon tetrachloride on < RTI ID=17.9> 70-750C.< /RTI> To the developed solution one gives 0.5 g to Dibenzoylperoxid and afterwards within 45 minutes a mixture of 1 g Azoisobutyronitril and 70.8 g N-Bromr succinimid. The completion of the reaction still 2 hours at the return flow become heated. The failed Succinimid then dropped tri ore and the surplus carbon tetrachloride abdestilliert one receives 141 g title product, which exhibits a melting point of 74-750C after Behandlung with methanol for purification.

Example 3: 2-para-Tolyl-4,6-dimethoxy-pyrimidin

EMI18.1

< RTI ID=18.1> 156,1< /RTI> g. of a 30,5%igen Natriummethylatlösung are mixed with 700 ml anhydrous methanol. Into the solution now within 10 minutes under more easily cooling 95.64 g 2-para-Tolyl-4,6dichloro-pyrimidin are registered. Afterwards return flow heated and 4 hours at simmering one holds. After Abdestillieren of the solvent the product staying is registered in 1000 ml water. The distance of the developed sodium chloride becomes fine with water husbands. Afterwards filters off, with water washed and at air dried. < RTI ID=18.2> Man< /RTI> so 90.4 g receive title connection with a melting point from 61-620C.

Example 4: < RTI ID=18.3> 2-para-Chlorphenyl-4, 6-dihydroxy-pyrimidin< /RTI>

EMI18.2

To a suspension of 38,2 g 4-Chlorbenzylamidin-Hydrochlorid and 33,6 g < RTI ID=18.4> Malonsäurediäthylester< /RTI> in 175 ml one gives 108 g 30%ige to methanol within 10 minutes < RTI ID=18.5> Natriummethylat/methanol Lösung< /RTI> and afterwards the whole cooks during 5 hours at the return flow. Then the solvent at the rotary evaporator is abdestilliert and the residue is taken up and-filtered to 1000 ml hot water. The filtrate is acidified on pH 1, the failed Niederschlag is then filtered off and dried in the vacuum with 800C. One receives so 44 g 2-para Chlorphenyl-4,6-dihydroxypyrimidin with a melting point from 3330C (decomposition).

Example 5: 2-para-Chlorphenyl-4,6-dichlor-pyrimidin

EMI19.1

To 22 ml one drips N, N-Dimethylanilin at ambient temperature 50 ml Phosphoroxychlorid < RTI ID=19.1> (P0C13), < /RTI> then become under cooling, so that the temperature < below; RTI ID=19.2> 40 " C< /RTI> remains, for 22,3 g 2-para-Chlorphenyl-4,6dihydroxy-pyrimidin portionenweise admitted and 2 hours at ambient temperature agitated, afterwards still 2 hours under return flow cooked.

The reaction mixture afterwards at the rotary evaporator one confines and one grinds the residue with 500 ml a water. The product is treated, dried and restricted abgenutscht, in dichloromethane solved, with bleaching earth. The residue crystallizes and results in 16.2 g 2-para-Chlorphenyl-4,6-dichlorpyrimidin with melting point < RTI ID=19.3> 119-120 " C.< /RTI> One with < RTI ID=19.4> 800/0,02< /RTI> mbar sublimated sample scmilzt with < RTI ID=19.5> 120-1210C.< /RTI>

Example 6: 2-para Methoxyphenyl-4,6-dihydroxy-pyrimidin

EMI19.2

To a suspension of 112 g para Methoxybenzamidin hydrochloride and 101 g Malonsäurediäthylester in 520 ml ethanol are < within 10 minutes of 338 g 30%ige; RTI ID=20.1> Natriummethylatfethanol Lösung< /RTI> given and the whole afterwards during 5 hours at the return flow cooked. The reaction mixture is restricted afterwards at the rotary evaporator and the residue is solved in 1000 ml 800C warm water. One filters and acidifies the filtrate to pH 1. The precipitation is filtered off and dried in the vacuum with 800C. One keeps so 109.8 g 2-para < RTI ID=20.2> Methoxyphenyl-4,6-dihydroxypyrimidin< /RTI> with a melting point of < RTI ID=20.3> 3180C< /RTI> (Decomposition).

Example 7: 2-para Methoxyphenyl-4, 6-dichlor-pyrimidin

EMI20.1

To 54.5 g 2-para-Methoxyphenyl-4,6-dihydroxy-pyrimidin one drips under < RTI ID=20.4> Kühöen, < /RTI> so that the reaction temperature does not exceed 450C, within 30 minutes of 126 ml Phosphoroxychlorid < RTI ID=20.5> (P0C13) < /RTI> and afterwards 57 ml N, N-Dimethylanilin. The reaction mixture is agitated afterwards during 2 hours at ambient temperature and cooked then still 2 hours under return flow. Then at the rotary evaporator and the residue in 2 1 is restricted is < RTI ID=20.6> Eiswasser< /RTI> ground. The solid product is loosened abgenutscht, in 1,5 1 dichloromethane, treated and dried with bleaching earth. After the filtering and restricting of the dichloromethane solution one receives a residue, which can be recrystallized from ethanol. One receipt so 51 g crystalline < RTI ID=20.7> 2-para-Methoxyphenyl-4, 6-dichlor-pyrimidin< /RTI> from the melting point < RTI ID=20.8> 127-1280C.< /RTI>

In analog way for these examples the following connections are manufactured:

EMI21.1

EMI21.2

< tb> < SEP> (R) < SEP> R < SEP> R < SEP> R  
< tb> No. < SEP> (< SEP> R) < SEP> 1 < SEP> 2 < SEP> R3 < SEP> physical. < SEP> Data  
< tb> 1 < SEP> (H) 5 < SEP> C1 < SEP> H < SEP> C1 < SEP> Smp. < SEP> 95-960  
< tb> 2 < SEP> 4- < SEP> CH3 < SEP> C1 < SEP> B < SEP> C1 < SEP> Smp. < SEP> 86-87  
< tb> 3 < SEP> 4- < SEP> CH3 < SEP> C1 < SEP> CB3 < SEP> C1 < SEP> Smp.153-1540  
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< tb> 5 < SEP> (H) 5 < SEP> C1 < SEP> H < SEP> CH3 < SEP> Smp. < SEP> 71-720  
< tb> 6 < SEP> 4- < SEP> CH3 < SEP> C1 < SEP> II < SEP> CH3 < SEP> Smp. < SEP> 103-104e  
< tb> 7 < SEP> 4- < SEP> CH3 < SEP> C1 < SEP> H < SEP> OH < SEP> Smp. < SEP> 229-234'  
< tb> 8 < SEP> 4-CH3 < SEP> C1 < SEP> H < SEP> OCH3 < SEP> Smp. < SEP> 92-93  
< tb> 9 < SEP> 4CH3 < SEP> C1 < SEP> CH3 < SEP> OCH3 < SEP> Smp.< SEP> 143-144e  
< tb> 10 < SEP> 4-CE3 < SEP> C1 < SEP> H < SEP> OC3H7iso < SEP> Smp. < SEP> 55-570  
< tb> 11 < SEP> 4-CH3 < SEP> C1 < SEP> II < SEP> B < SEP> too < SEP> Smp. < SEP> 86-870  
< tb> < SEP> =2  
< tb> 12 < SEP> 4H3 < SEP> C1 < SEP> H < SEP> - < SEP> too < SEP> Smp. < SEP> 102-104e  
< tb> < SEP> \ < SEP> / < SEP> Smp. < SEP> 102-1040  
< tb> 13 < SEP> 4-CH3 < SEP> C1 < SEP> H < SEP> NHCH3 < SEP> Smp. < SEP> 1070  
< tb> 14 < SEP> 4-CH3 < SEP> C1 < SEP> Br < SEP> NHCH3 < SEP> Smp. < SEP> 105-1070  
< tb> 15 < SEP> 4-CH3 < SEP> C1 < SEP> H < SEP> 2 < SEP> 5) < 2; SEP> Smp. < SEP> 74-75  
< tb> 16 < SEP> (H) 5 < SEP> CR3 < SEP> H < SEP> OH < SEP> Oil

< tb> 17 < SEP> 4-CH < SEP> CE < SEP> H < SEP> OH < SEP> Smp. < SEP> 206-2070  
 < tb> 18 < SEP> (H) 5 < SEP> CH3 < SEP> H < SEP> OCH3 < SEP> Sdp.156-80/3  
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 < tb> 24 < SEP> (H) 5 < SEP> CH3 < SEP> H < SEP> N (CH3) < SEP> 2 < SEP> Smp. < SEP> 55-57e  
 < tb> 25 < SEP> 4-CH3 < SEP> CH3 < SEP> H < SEP> N (CH3) 2 < SEP> ) < 2; SEP> Smp. < SEP> 97-980  
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 < tb>  
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 < tb> 26 < SEP> Br < SEP> N (CH3)  
 < tb> to  
 < tb> < SEP> CR3  
 < tb> 27 < SEP> (H) 5 < SEP> CR3 < SEP> H < SEP> - < n; SEP> ) o < SEP> Smp. < SEP> 88-90'  
 < tb> 28 < SEP> 4-CH3 < SEP> CH3 < SEP> H < SEP> - < xK; SEP> < SEP> Smp. < SEP> 123-124  
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 < tb> < SEP> s5  
 < tb> 31 < SEP> 43 < SEP> OCH3 < SEP> H < SEP> OCH3 < SEP> Smp. < SEP> 61-62e  
 < tb> 32 < SEP> 4-CB3 < SEP> OCH3 < SEP> CH3 < SEP> OCH3 < SEP> Smp. < SEP> 93-940  
 < tb> .~.  
 < tb>  
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 < tb> 35 < SEP> 4-CR3 < SEP> oc3R7n < SEP> H < SEP> H, n < SEP> flat steel bar < SEP> OC3H7n < SEP> Smp. < SEP> 62e  
 < tb> 36 < SEP> 4CE3 < SEP> OC3H7iso < SEP> H < SEP> flat steel bar < SEP> OC3H7iso < SEP> Sdp. < SEP> 123 /5.332 < SEP> Pa  
 < tb> < SEP> Example < SEP> 1  
 < tb> 37 < SEP> 4-CH3 < SEP> OC3H7iso < SEP> Br < SEP> OC3R7iso < SEP> Smp. < SEP> 73-74  
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 < tb> < SEP> .~. < SEP> .~.  
 < tb>  
 48 < SEP> 4-CH3 < SEP> H < SEP> n < SEP> < < SEP> Smp. < SEP> 125-126e  
 < tb> 49 < SEP> 4-CH3 < SEP> Br < SEP> H < SEP> Br < SEP> Smp. < SEP> 125-126'  
 < tb> -50-< SEP>-(H)-5-< SEP>-Br-< SEP>-H-< SEP>-Br-< SEP>-Smp.-< SEP>-1-15-118e  
 < tb> 51 < SEP> (H) 5 < SEP> C1 < SEP> H < SEP> OH < SEP> Smp. < SEP> 218-221'  
 < tb> 52 < SEP> (H) 5 < SEP> C1 < SEP> H < SEP> SELF-SERVICE < SEP> Smp. < SEP> 1500 < SEP> Z  
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< tb> 57 < SEP> 2-CE3 < SEP> C1 < SEP> H < SEP> C1 < SEP> Smp. < SEP> 74-750  
 < tb> 58 < SEP> 2-CH < SEP> Cl < SEP> Cl < SEP> Cl < SEP> Smp. < SEP> 122-125  
 < tb> < RTI ID=24.1> No. (R) G 1 R2 R3 phys. Data n< /RTI> 59 3-Cl, 4-F Cl H Cl Smp. 94-95 60 2.6 (CH3) 2 Cl H Cl Smp. 103-104 61 3.4 (CH3) 2 Br H Br 62 4-C3H7i Cl H Cl Smp. 63-64 63 4-C3H7i Cl H F 64 4-C1 F H F Smp. < RTI ID=24.2> 139-141 < /RTI> 65 2-CH3, 6-C2H5 Cl H Cl 66 2-CH3, 6-C2H5 Cl H C2H5 67 2-Cl Cl H Cl Smp. 116-118 68 3-C2H5 Cl H Cl 69 4-CH3 Cl F Cl 70 4-F Cl F Cl 71 3-CHF3 Cl H Cl 72 2, 4 (CH3) 2 Br H Br 73 2,3,6 (CH3) 3 Cl H Cl 74 3-C3H7i Cl H Cl 75 4-CHF2 Cl H Cl 76 2-Cl, 4-CH3 Br H Br 77,3.4 (c1) 2 Cl H OH 78 4-OCH2CH=CH2 Cl H Cl Smp. 57-58 79 4-OH F H F 80 4-COCH3 Cl H Cl Smp. 129-130 81 4-OCOC2H5 Cl H Cl 82 4-OCH (CH3) COOCH3 Cl H Cl 83 4-OCF2Cl Cl H OC2H5 84 4-OH Cl H Cl Smp. 135-137 85 4-OCON (CH3) 2 Cl H Cl Smp. 191-193 86 3-CH2F Cl H Cl 87 2-COOCH3 Cl H OC4H9 n 88 4-CH2F Cl H Cl 89 4-COOCH3 Cl H Cl Smp. 135-140 90 < RTI ID=24.3> 4-COOC4Hgn< /RTI> Cl H < RTI ID=24.4> OC4Hgn< /RTI> < RTI ID=25.1> No. (R) G 1 R2 R3 phys. Data n< /RTI> 91 4-Cl, 2,6 (OCH3) Cl H Cl 92 4-CHO Cl H Cl Smp. 160-162  
 93 3-CH2Cl Cl H Cl 94,3.5 (CF3) 2 Cl H Cl 95 4-CF3 Br H Br 96 4-OCHF2 Cl H Cl 97,3.5 (OC2H5) 2 Cl H Cl 98 4-OC3H7i F H F

99 3-NO2 Cl H Cl Smp. 136-138 100 4-NO2 Cl H Cl Smp. 167-168 101 3-NO2, 4-CH3 Cl H Cl 102 2-Cl, 4-NO2 Cl H Cl 103 2-N (CH3) 2 Cl H Cl 104 3-NHCOCH3 Br H Br 105 3-NHCOCH2Cl Cl H Cl 106 4-OCF3 Cl H OC3H7i 107 3-OCF2Cl, 5-Cl Cl H Cl 108 2-CON (CH3) 2 Cl H Cl 109 4-OCF2CHF2 Cl H Cl 110 4-CONHC4H9n Cl H Cl 111 4-NHCOCH2Cl Cl H Cl Smp. 196-198 112 4-COCH3, 3-CH3 Cl H CH3 113 3-CH2-COCH3 F H OCH3 114 4-COC3H7n Cl H Cl 115 4-OCF2CHFC1 Cl H Cl 116 2-OH Cl H Cl 117 4-COOCH2CH=CH2 Cl H Cl 118 < RTI ID=25.2> 4-COOCH2C#CH< /RTI> Cl H Cl Smp. 105-109 119 2-Cl, < RTI ID=25.3> 6-C#CH< /RTI> Cl H Cl 120 < RTI ID=25.4> 3-C#C-C (CH3) 2OCH3< /RTI> Br H Br 121 < RTI ID=25.5> 4-C#C-C (CH3) 2OH Cl H Cl< /RTI> No. (R) G 1 R2 R3 phys. Data 122 < RTI ID=26.1> 4-C#C-C (CH3) 2OCH3< /RTI> Cl H Cl 123,3.5 (I) 2, 4-OCH (CH3) COOCH3 Cl H Cl 124 (H) 5 Cl CF3 Cl 125 4-CH=CH-C4H9n Cl H Cl 126 4Cl3 Cl CF3 Cl 127 4-OH Br H Br 128 4-Br Cl H Cl Smp. 130-131 129 3-OH Cl H Cl Smp. 144-146 130 3-OCH3 Cl H Cl Smp. 97-100 131 3-OCOCH2Cl Cl H Cl 132 2-OCH3 Cl H Cl Smp. 67-70 133,2.6 (F) 2 Cl H Cl 134 4-F Cl H Cl Smp. 102-105 135 3-Cl, 4-CH3 Cl H Cl Smp. 91-92 136. (H) 5 F H F Smp. < RTI ID=26.2> 114-116.< /RTI>  
 137 (H) 5 F H Cl Smp. 105,138,2.5 (c1) 2, 4-OH F H P 139 2-Cl, 4-OCH (CH3) COOC2H5 Cl H Cl 140 2,3.5 (Cl) 3, 4-OH Cl H Cl 141 2,3.5 (Cl) 3, 4-OC2H5 Cl H Cl 142 2,3.5,6 (CH3) 4, 4-NO2 Cl H Cl 143 (H) 5 F CF3 Cl 144 3-SO2N (CH3) 2 Cl H Cl 145 4-CSN (CH3) 2 Cl H Cl 146 4C (CH3) =CH2 Cl H Cl 147 4-CH2COOCH3 Cl H Cl 148 4-CH2PO (OC2H5) 2 Cl H Cl Smp. 110-112 149 4-CH2PO (OH) 2 Br H Br 150 4-SO2N (CH3) 2, 5-CH3 Cl H OC4H9n 151 4-PO (OH) 2 Br H Br 152 4-PO (OCH3) 2 Cl H Cl 153 3-PO (OCH3) 2 Cl H Cl No. (R) G 1 R2 R3 phys. Data 154 H SOCH3 H Cl 155 4-CH2CH=CH2 Cl H Cl 156 < RTI ID=27.1> 3-C#CH, < /RTI> 3-CH3 Cl H Cl 157 < RTI ID=27.2> 2-C#CH< /RTI> Cl H Cl 158 < RTI ID=27.3> 4-C#CH< /RTI> Cl H Cl Smp. 168-170 159 H SOCH3 H Br 160 4-C (OCH3) 2C3H7n Cl H OCH3 161 2-CH3, 5-N (CH3) 2 Cl H Cl 162 2-CH3, 5-Cl Cl H Cl 163 3-Br, 4-OH Cl H OCH2CH=CH2 164 3-Br, 4-OC3H7n Cl H Cl 165 3-NO24-Cl Cl H Cl Smp. 158-159 166 3-NH2, 4-Cl Cl H Cl 167 3-CH3, 4-NO2 Cl H Cl Smp. 173-175 168 3-CH3, 4-NH2 Cl H Cl solid 169 3-CH3, 4-NHCON (CH3) 2 F H OCH2CH=CH2 170 2-Cl, 5-CF3 Cl H Cl 171 3-CF3, 4-Cl Cl H Cl 172 4-CH3 SOCH3 H Cl 173 2-Cl, 5-N (CH3) 2 Cl H OH 174,2.6 (OCH3) 2, 3-NO2 Cl H Cl 175,2.6 (OCH3) 2, 3-NH2 Cl H Cl 176,2.6 (OCH3) 2, 3-NHCOCH3 Cl H Cl 177 2-CH3m 6-C2H5, 4-OCON (CH3) 2 Cl H Cl 178,3.5 (I) 2, 4-OH Cl H Cl 179,3.5 (I) 2, 4-OCH3 Br H Br 180,3,5 (Br) 2, 4-OH Cl H Cl 181,3.5 (Br) 2, 4-OCH2-CH=CH2 Cl H Cl 182 3,4.5 (OCH3) Cl H Cl Smp. 167-169 183,2.3 (cl) 2 Cl H Cl Smp. 116-118  
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 SCOCH3 Cl H Cl 257 4-SCH2CH=CH2 Cl H Cl 258 4-NH2 Br H Br 259 4-NHC6H13n Cl H Cl 260 4-C3H7i Cl H Cl 261 4-  
 NHCH2COOCH3 Cl H Br 262 4-NHCH (CH3) CON (CH3) 2 Cl H Cl 263 4-NHOCH=CH2 Cl H Cl 264 4-NHCH2-CH=CH2 Cl  
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EMI34.1

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#### EMI35.1

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 < tb> 374 < SEP> 3-NH2 < SEP> Br < SEP> H < SEP> Br < SEP> solid  
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 < tb> 398 < SEP> 3-CONR2 < SEP> C1 < SEP> H < SEP> C1  
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#### EMI36.1

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### EMI37.1

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CN H CN 524 < RTI ID=40.2> 4-CR3< /RTI> Cl H CN 525 4-OCH3 CN H CN 526 4-OCH CN H Cl 527 4-OH CN H CN 528 4-OH Cl H CN Smp. < RTI ID=40.3> 69-72 < /RTI> 529 (H) 5 SCH3 H < RTI ID=40.4> Cl< /RTI> 530 (H) 5 SO2CH3 H Cl 531 (H) 5 SCH3 H Br 532 (H) 5 S02CH3 H Br 533 (H) 5 SCH3 H F 534 (H) 5 SO2CH3 H F 535 (H) 5 CN Cl Cl 536 3-SCH2CO2CH3 Cl H Cl 537 (H) 5 OCF3 H Cl 538 4-CH3 OCF3 H Cl 539 4-CH3 OCOCH3 H Cl Smp. < RTI ID=40.5> 110-112 < /RTI> 540 4-OH, 3CH3 Cl H Cl 541 (H) 5 Cl F Cl 542 (H) 5 < RTI ID=40.6> Br< /RTI> F Br 543 Cl H Cl Smp. 76-79 544 Cl H Cl Smp. 103-105 No. (R) G 1 R2 R3 phys. Data 545 3-CCl3 Cl H Cl 546 4-CCl3 Cl H Cl 547 4-OH, 3-CH3 Br H Cl Smp. < RTI ID=41.1> 140-145. < /RTI> 548 4-SCH2COCH3 Cl H Cl 549 3-SCCOH=CH2 Cl H Cl 550 4-SCCOH=CHCH3 Cl H Cl 551 < RTI ID=41.2> 3-SCO-CH2C#CH< /RTI> Br H Br 552 4-SOCH2CH=CH2 Cl H Cl 553 3-SOCH2CH=CH2 Cl H Cl 554 < RTI ID=41.3> 4-SOCH2C#CH< /RTI> F H Cl 555 < RTI ID=41.4> 3-SOCH2C#CH< /RTI> Cl H Cl 556 3-SO2CH2CH=CH2 Br H Br 557 4-SO2CH2CH=CH2 Cl H Cl 558 < RTI ID=41.5> 3-SO2CH2C#CH< /RTI> Cl H Cl 559 < RTI ID=41.6> 4-SO2CH2C#CH< /RTI> Cl H Cl 560 4-OCOC6H13n Cl H Cl 561 3-OOC-C5H11i Cl H Cl 562 4-OCONHCH3 Cl H Cl Smp. 205-209 563 3-OCONHCH3 Cl H Cl Smp. 134-137 564 4-OCON (CH3) 2 Cl H Cl Smp. 191-193 565 4-OCONHC4H9 Cl H Cl 566 3-OCONHC3H7i Cl H Cl 567 4-OCOCH=CH2 Cl H Cl 568 3-OCOCH=CH-CH3 Cl H Cl 569 4-OCOCH2OCH3 Cl H Cl 570 3-OCON (CH3) 2 Cl H Cl 571 4-NHCONHC4H9n Cl H Cl 572 4-SH Cl H Cl 573 3-OC2H4OH Cl H Cl 574 3-NHC2H4COOCH3 Cl H Cl 575 3-Br, 4-OH Cl H Cl 576 3-NHCONHCH3 Cl H Cl Smp. 234-238 577 4-OCH3 OH H OH Smp. < RTI ID=41.7> 318 < /RTI> Z  
EMI42.1

< tb> No. < SEP> (R) < SEP> G 1 < SEP> R2 < SEP> R3  
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< tb> < SEP> 0-0  
< tb> 590 < SEP> ) < SEP> ; < SEP> C1 < SEP> H < SEP> ON-C (- CH < SEP> 62 < SEP> Smp.120-121  
< tb> < SEP> = < SEP> /  
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< tb> 594 < SEP> \. =. / < SEP> Cl < SEP> 11 < SEP> Cl < SEP> Smp. < SEP> 152-154'  
< tb> < SEP> 0-0  
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< tb> The connections of the formula I are not used generally as such in the agriculture. One uses ready for use formulated < RTI ID=43.1> Composition, < /RTI> are present in those the active connections mixed with carrier materials, wetting agents and other auxiliary materials usual in the formulation technology, so that they can be used either directly or with water diluted. The making of wolcher agents can be taken for example from the following examples.

Example 8: Types of dust means to the preparation of an A) < RTI ID=43.2> Obigen< /RTI> and b) < RTI ID=43.3> 2Zigen< /RTI> Types of dust means the following materials are used: a) 5 parts < RTI ID=43.4> 2-para-Tolyl-4,6-bis-isopropoxy-pyrimidin< /RTI>

95 parts talcum powder, b) of 2 parts of the above active substance or a mixture,

1 part hochdisperse silicic acid,

97 parts talcum powder.

< RTI ID=43.5> Wilkstoffewerden< /RTI> mixed with the carrier materials and grind and can become dusty in this form the use.

Example 9: Granular material to the preparation of a 5% Grnaulates the following materials are used: 5 parts < RTI ID=43.6> 2-para-Tolyl-4, 6-bis-isopropoxy-5-brom-pyrimidin< /RTI> 0.25 parts epoxidiertes vegetable oil, 0.25 parts Cetylpolyglykoläther, 3.50 parts PL glycol, 91 parts kaolin (grain size 0.3-0.8 mm).

The active ingredient or the mixture is mixed with the vegetable oil and added with 6 parts acetone solved, on that PL-glycol and Cetylpolyglykoläther. In such a way received solution is up-sprayed on kaolin, and afterwards the acetone in the vacuum one evaporates. A such < RTI ID=44.1> 1ikrogranulat< /RTI> can be trained favourably in seed furrows.

Example 10: Spraying powder to the making of an A) < RTI ID=44.2> 70eigen, < /RTI> b) 40%igen, C) and D) 25Zigen, e) 10eigen of spraying powder are used the following components: a) 70 parts < RTI ID=44.3> Z-para-Tolyl-4,6-bis (methoxyäthyl) - 5-chlorpyrimidin< /RTI>

5 parts Natriumbibutylnaphthylsulfonat,

3 parts < RTI ID=44.4> Naphthalinsulfonsäuren Phenolsulfonsäuren formaldehyde< /RTI>

Condensate 3:2: 1,  
 10 parts kaolin,  
 12 parts Champagne chalk; b) 40 parts active substance  
 5 parts < RTI ID=44.5> Lignin sulfone acid sodium salt, < /RTI>  
 1 part < RTI ID=44.6> Dibutylnaphthalinsulfonsäure sodium salt, < /RTI>  
 54 parts silicic acid; c) 25 parts active substance  
 4.5 parts calcium Ligninsulfonat,  
 1.9 parts < RTI ID=44.7> Champagne Kreide/Hydrixyläthylcellulose mixture (1: 1), < /RTI>  
 1.5 parts < RTI ID=44.8> Natriumrdibutyl naphthalinsulfonat, < /RTI>  
 19.5 parts silicic acid,  
 19.5 parts Champagne chalk,  
 28.1 parts kaolin; d) 25 parts active substance  
 2.5 parts Isooctylphenoxy polyoxyäthylenglykoläther,  
 1.7 parts Champagne Kreide/Hydroxyäthylcellulose mixture (1: 1),  
 8.3 parts Natriumaluminiumsilikat,  
 16.5 parts Kieselgur,  
 46 parts kaolin; e) 10 parts active substance or mixture,  
 3 parts mixture of sodium salts of saponified Fettalkohol sulfates,  
 5 parts < RTI ID=45.1> Naphthalinsulfonsäure/formaldehyde condensate > < /RTI>  
 82 parts kaolin.

The active substances are intimately mixed in suitable mergers with the aggregates and on appropriate mills and rollers to grind.

< RTI ID=45.2> tin < /RTI> spraying powder receives from excellent wettability and abilityability ability, with water to suspensions of the desired concentration dilutes itself and in particular for sheet application (< for stature delay; RTI ID=45.3>.: < /RTI> ) leave to use.

Example 11: Emulsive concentrates to the preparation of a 25%igen of emulsive concentrate are used the following materials:

25 parts 2-Phenyl-4-chlor-6-methyl-pyrimidin  
 10 Teile eines < RTI ID=45.4> Alkylarylsulfonat/Fettalkoholpolyglykoläther- < /RTI> < RTI ID=45.5> Gemisches < /RTI>  
 5 parts dimethyl formamides,  
 57.5 parts xylene.

Example 12: Paste to the making of a 45%igen paste the following materials are used: a) 45 parts 2-Phenyl-4-chlor-6-hydroxy-pyrimidin or a mixture of it with 2-Chlor-2',6' diäthyl n (methoxymethyl) acetanilid,  
 5 parts Natriumaluminiumsilikat,  
 14 parts Cetylpolyäthylenglykoläther with 8 mol < RTI ID=46.1> Ethylene oxide, < /RTI>  
 1 part Oleylpolyäthylenglykoläther with 5 mol ethylene oxide,  
 2 parts spindle oil,  
 23 parts water,  
 10 parts PL glycol; b) 45 parts of the above active substance or the mixture,  
 5 parts ethylen glycol,  
 3 parts Octylphenoxy polyäthylenglykol with 9-10 mol < RTI ID=46.2> Aethylenoxid < /RTI> per mol of Octylphenol,  
 3 parts of a mixture of aromatic Sulfonsulfosäuren, condensed with formaldehyde as ammonium salt,  
 1 part silicone oil in form of a 75%igen emulsion,  
 0.1 parts of a mixture of < RTI ID=46.3> 1 (3-Chlorallyl) - 3m5m7-triazo- < /RTI> azonium adamantan chloride with sodium carbonate,  
 Chloride value at least. < RTI ID=46.4> 11,52, < /RTI>  
 0.2 parts of a biopolymere thickener with max. 100 germs per gram,  
 42.7 parts water.

The active ingredient is intimately mixed with the aggregates in apparatuses suitable for it and to grind. One receives a paste, of which by diluting with water suspensions of each desired concentration can be made.

Biological examples: To adjust the ability of the 2-Phenylpyrimidine the plant growth, respectively < RTI ID=46.5> Pfianzenmetabolismus < /RTI> to affect can be seen from the following examples.

Example 13: Stature inhibition Solanum and Avena in plastic pots with sterilized earth become the plants Solanum (tomato) and Avena sativa (culture oats) angesät and in the greenhouse attraction. Irrigation, temperature control and lighting took place as required. Two weeks after Ansaat the application with 4 kg active substance per hectare with a Brühe which took place via diluting of a 25%igen of emulsion concentrate with a quantity of water from 500 Liter/ha became available. Two weeks after the application the plant growth is judged. The stature height is measured and expressed in Z as a check (K = 100%). The following side effects are determined: X < RTI ID=47.1> - < /RTI> light necrosis Y < RTI ID=47.2> - < /RTI> strong necrosis L < RTI ID=47.3> e < /RTI> light chlorose C < RTI ID=47.4> = < /RTI> strong chlorose B = sheet deformation The results are as follows:

EMI48.1

< tb> Connection < SEP> Solanum < SEP> Avena  
 < tb> < SEP> No. < SEP> < RTI ID=48.1> % < /RTI> < SEP> Stature height < SEP> Side-effect < SEP> % < SEP>  
 Stature height < SEP> Side effect  
 < tb> < SEP> 13 < SEP> 0 < SEP> - < Y; SEP> | < SEP> 100 < SEP>  
 < tb> < SEP> 14 < SEP> 65 < SEP> L < SEP> X < SEP> 100 < SEP>  
 < tb> < SEP> 15 < SEP> 40 < SEP> L < SEP> X < SEP> 100 < SEP>  
 < tb> < SEP> 41 < SEP> 40 < SEP> L < SEP> X < SEP> 100 < SEP> < RTI ID=48.2> - < /RTI> < SEP>  
 < tb> < SEP> 53 < SEP> 100 < SEP> - < SEP> 75 < SEP> X

< tb> < SEP> 54 < SEP> 100 < SEP> - < SEP> 75 < SEP> x  
 < tb> < SEP> 67 < SEP> 15 < SEP> L < SEP> B < SEP> 100 < SEP>  
 < tb> < SEP> 70 < SEP> 65 < SEP> L < SEP> X < SEP> B < SEP> 100 < SEP>  
 < tb> < SEP> 441 < SEP> 65 < SEP> B < SEP> < RTI ID=48.3> X < SEP> < /RTI> < SEP> 100 < SEP> < RTI  
 ID=48.4> - < /RTI> < SEP>  
 < tb> < SEP> 529 < SEP> 65 < SEP> C < SEP> 100 < SEP> - < SEP>  
 < tb> < SEP> 557 < SEP> 50 < SEP> - < SEP> 100 < SEP> < RTI ID=48.5> - < /RTI> < SEP>  
 < tb> < SEP> 578 < SEP> 0 < SEP> Y < SEP> 100 < SEP>  
 < tb> < SEP> 579 < SEP> 75 < SEP> x < SEP> 100 < SEP> - < SEP>  
 < tb> < SEP> 581 < SEP> 15 < SEP> L < SEP> X < SEP> B < SEP> 85 < SEP>  
 < tb> < SEP> 586 < SEP> 40 < SEP> B < SEP> Y < SEP> 100 < SEP>  
 < tb> < SEP> 592 < SEP> 65 < SEP> - < SEP> 100 < SEP> Example 14: Root growth (30 day attempt) to the testing  
 of root growth took place the culture in crates filled with earth (60 x 40 x 80 cm) for seed treatments and in tubes filled  
 with earth (10 x 100 cm) for post office applications.

The products become as seed pickling (45-500 mg per kg of seeds) or directly after the seed as Bodenbehandlungen (0.1-1.0 kg/ha) or 2 weeks after Ansaat as post office application (0.3-3.0 kg/ha) as diluted aqueous emulsion appliziert.

For the culture the vessels are < in; RTI ID=49.1> Klimakammern< /RTI> under controlled conditions held.

The evaluation of the roots takes place 30 days after application, after the earth was carefully washed.

Root length and root weight are determined and < in; RTI ID=49.2> Z< /RTI> to untreated control expressed (= 100%).

The results are as follows:

EMI50.1

< tb> Connection < SEP> Culture < SEP> Application < SEP> Root length < SEP> Root weight  
 < tb> < SEP> No. < SEP> % < SEP> %  
 < tb> < SEP> 1 < SEP> Wheat < SEP> Seed pickling  
 < tb> < SEP> mg/kg < SEP> Seed  
 < tb> < SEP> 45 < SEP> 103 < SEP> 106  
 < tb> < SEP> 150 < SEP> 106 < SEP> 1 < SEP> 97  
 < tb> < SEP> 500 < SEP> 106 < SEP> 111  
 < tb> < SEP> 1 < SEP> Soja < SEP> 45 < SEP> 97 < SEP> 123  
 < tb> < SEP> 150 < SEP> 102 < SEP> 110  
 < tb> < SEP> 500 < SEP> 95 < SEP> 95  
 < tb> < SEP> 1 < SEP> Wheat < SEP> Post office application  
 < tb> < SEP> < RTI ID=50.1> kgVha< /RTI> < SEP>  
 < tb> < SEP> 0,1 < SEP> 108 < SEP> 117  
 < tb> < SEP> 0,3 < SEP> 91 < SEP> 117  
 < tb> < SEP> 1,0 < SEP> 99 < SEP> 91  
 < tb> 200 < SEP> Wheat < SEP> 0,3 < SEP> 120 < SEP> 112  
 < tb> < SEP> 1,0 < SEP> 110 < SEP> 116  
 < tb> < SEP> 3,0 < SEP> 110 < SEP> 120  
 < tb> < SEP> < RTI ID=50.2> Bod < SEP> enbehandlung< /RTI> < SEP>  
 < tb> < SEP> kg/ha  
 < tb> 200 < SEP> Tree < SEP> 0,1 < SEP> 113 < SEP> 115  
 < tb> < SEP> wants  
 < tb> < SEP> 0,3 < SEP> 111 < SEP> 115  
 < tb> < SEP> 1,0 < SEP> 105 < SEP> 104  
 < tb> < SEP> Wheat < SEP> 0,1 < SEP> 101 < SEP> 117  
 < tb> < SEP> 0,3 < SEP> 98 < SEP> 116  
 < tb> < SEP> 1,0 < SEP> 98 < SEP> 119  
 < tb> Example 15: < RTI ID=51.1> Wurzelwachsrum< /RTI> (10-meet attempt) to the testing of root growth the  
 culture takes place in corrosion free cylinders filled with earth (5 x 30 cm).

The products become as seed pickling (13-150 mg/kg seeds) or directly after the seed as Bodenbehandlung (soil drench) (0,1-10 kg/ha) appliziert as diluted aqueous emulsions.

After the Ansaat (10 seeds/cylinders) the cylinders in climate chambers under controlled conditions are held.

The evaluation of the roots takes place 10 days after Ansaat after the earth was carefully washed.

The root length and the being rooted skirt weight are measured. The expression of the results takes place in % to untreated control (= 100%).

The results are as follows:

EMI52.1

< tb> Connection < SEP> Culture < SEP> Application < SEP> Root < SEP> lengthens < SEP> Root weight  
 < tb> No. < SEP> < RTI ID=52.1> - Z < /RTI> < SEP> < RTI ID=52.2> - Z < /RTI> < SEP>  
 < tb> < SEP> Seed pickling  
 < tb> < SEP> mg/kg < SEP> Seed  
 < tb> 1 < SEP> Wheat < SEP> 13 < SEP> 1 < SEP> 105 < SEP> 118  
 < tb> < SEP> 45 < SEP> 101 < SEP> 118  
 < tb> < SEP> 150 < SEP> 106 < SEP> 126  
 < tb> 2 < SEP> Wheat < SEP> 13 < SEP> 101 < SEP> 90

< tb> < SEP> 45 < SEP> 103 < SEP> 105  
< tb> < SEP> 150 < SEP> 114 < SEP> 95  
< tb> 18 < SEP> Wheat < SEP> 13 < SEP> 95 < SEP> 110  
< tb> < SEP> 45 < SEP> 96 < SEP> 110  
< tb> < SEP> 150 < SEP> 91 < SEP> 98  
< tb> 31 < SEP> Wheat < SEP> 13 < SEP> 111 < SEP> 100  
< tb> < SEP> 45 < SEP> 106 < SEP> 86  
< tb> < SEP> 150 < SEP> 109 < SEP> 1 < SEP> 93  
< tb> < SEP> Bodenbehandlung  
< tb> < SEP> kg/ha  
< tb> 200 < SEP> Cotton < SEP> 0,1 < SEP> 113 < SEP> 1 < SEP> 115  
< tb> < SEP> < RTI ID=52.3> 0,3 < /RTI> < SEP> 111 < SEP> 1 < SEP> 115  
< tb> < SEP> 1,0 < SEP> 105 < SEP> 1 < SEP> 104  
< tb>